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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Minne Van Der Veen

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EXAMINER

SCHWARTZ, DARREN B

ART UNIT

PAPER NUMBER

2435

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/521,848	<b>Applicant(s)</b> VAN DER VEEN ET AL.	
	<b>Examiner</b> DARREN SCHWARTZ	<b>Art Unit</b> 2435	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant amends claims 1, 4 and 8.

Claims 1-6 and 8-10 are presented for examination.

### ***Response to Arguments***

Applicant's arguments filed 16 February 2010 have been fully considered but they are not persuasive.

1. Applicant argues on page 6 of Remarks, "Specifically, Levy does not teach or suggest that the set of fingerprints meet a predefined proximity criterion."

The Examiner remarks claims 1-6 and 8-10 are rejected under 35 U.S.C. 112, first paragraph and 35 U.S.C. 112, second paragraph, as necessitated by amendments to the claimed invention

The Examiner remarks that "a predefined proximity criterion," as best understood, may be interpreted as approximating a difference between two values and verifying said difference is within a tolerable difference.

Levy et al (U.S. Pat App Pub 2003/0021441 A1), hereinafter referred to as Levy states in ¶54, lines 15-17: "The calculated fingerprint is used to identify the corresponding audio recording (or a related audio signal or metadata) in a database and Levy further states in ¶54, lines 33-36: "A fingerprint of the audio signal is compared against the fingerprints in the database to find a match or a closest approximation. IN some implementations, a fingerprint is used to find a set of potential matches."

Art Unit: 2435

2. Applicant argues on page 6 of Remarks, "Clearly, Levy teaches a different approach to identify the data sequence (watermarks followed by fingerprints) from that of the claimed invention (fingerprints followed by watermarks). Applicants submit that Lofgren does not teach or suggest the missing features in Levy as discussed above."

The intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, Levy is directed to various methods of identifying a data sequence; be it fingerprints, watermarks, fingerprints followed by watermarks or watermarks followed by fingerprints.

3. As per Applicant's arguments on pages 7-8 of Remarks, the arguments stated by Applicant as applied to claim 1 are similarly applied as to claims 4 & 8. As such, the Examiner's remarks applied *supra* as per claim 1 is similarly applied to claims 4 & 8.

The fact that the Examiner may not have specifically responded to any particular arguments made by Applicant and Applicant's Representative, should not be construed as indicating Examiner's agreement therewith.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2435

4. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Amended independent claims 1, 4 & 8 recite the essential subject matter; “if multiple second fingerprints are matched that have a **mathematical distance measure less than a predefined limiting distance** from the first fingerprint” (emphasis added by Examiner).

In ascertaining the meets and bounds of the claimed invention, the Examiner turns to the disclosure of the invention to find meaning as to what applicant regards as “a mathematical distance measure.”

Applicant disclosure of the invention on page 5, lines 23-32 recite “the mathematical distance between the calculated fingerprint  $H_x$  and the existing ones  $H_{1...N}$  is sufficiently large, i.e. if  $M(H_x, H_{1...N}) > D_1$ , where  $M$  defines a mathematical distance measure and  $D_1$  is a limiting distance, then the fingerprint is defined as being unique.” The disclosure further recites “However, if a possible non-uniqueness occurs, i.e. if  $M(H_x, H_{1...N}) < D_1$ , a watermark  $W_x$  is calculated.” Additionally, the Examiner further points out page 6, lines 12-18 which recite similar functionality as recited on page 5, lines 23-32.

The function  $M$  is defined as Applicant as the mathematical distance measure, however, it is unclear as to what  $M$  represents other than its mere recitation as a

Art Unit: 2435

function. It is unclear as to how the input parameters,  $H_x H_{1...N}$ , are input into function M and applied to the function.

It is suggested that the applicant to particularly point out where in the specification support can be found as to what applicant regards as “a mathematical distance measure less than a predefined limiting distance.”

Any claim not specifically addressed above is being rejected as incorporating the deficiencies of a claim upon which it depends.

5. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Amended independent claims 1, 4 & 8 recite the essential subject matter; “if multiple second fingerprints are matched that have **a mathematical distance measure less than a predefined limiting distance** from the first fingerprint” (emphasis added by Examiner).

Applicant disclosure of the invention on page 5, lines 23-32 recite “the mathematical distance between the calculated fingerprint  $H_x$  and the existing ones  $H_{1...N}$  is sufficiently large, i.e. if  $M(H_x, H_{1...N}) > D_1$ , where M defines a mathematical distance measure and  $D_1$  is a limiting distance, then the fingerprint is defined as being unique.” The disclosure further recites “However, if a possible non-uniqueness occurs, i.e. if

Art Unit: 2435

$M(H_x, H_{1...N}) < D_1$ , a watermark  $W_x$  is calculated.” Additionally, the Examiner further points out page 6, lines 12-18 which recite similar functionality as recited on page 5, lines 23-32.

The function M is defined as Applicant as the mathematical distance measure, however, it is unclear as to what M represents other than its mere recitation as a function. It is unclear as to how the input parameters,  $H_x H_{1...N}$ , are input into function M and applied to the function.

The function M is undefined; since the function M is critical to the use of the invention and it is undefined, match multiple second fingerprints using a mathematical distance measure less than a predefined limiting distance from the first fingerprint. The breadth of the claims is unclear as M is undefined. Applicant provides only M as the function for calculating a mathematical distance measure; since it is undefined, there is undue experimentation as to how to perform the steps of the claimed invention [MPEP 2164.01(a)].

Any claim not specifically addressed above is being rejected as incorporating the deficiencies of a claim upon which it depends.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2435

6. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amended independent claims 1, 4 & 8 recite the essential subject matter; “if multiple second fingerprints are matched that have **a mathematical distance measure less than a predefined limiting distance** from the first fingerprint” (emphasis added by Examiner).

It was established *supra* that it is unclear as to what Applicant regards as to a “mathematical distance measure.”

The Examiner remarks that “a predefined proximity criterion,” as best understood, may be interpreted as approximating a difference between two values and verifying said difference is within a tolerable difference.

Any claim not specifically addressed above is being rejected as incorporating the deficiencies of a claim upon which it depends.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.



Art Unit: 2435

7. Claims 1, 4 and 8, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Shuster (U.S. Pat 6826546 B1), hereinafter referred to as Shuster.

Re claims 1, 4 and 8: Shuster teaches a method for identifying a first digital sequence, a system for identifying a first digital data sequence (col 4, lines 39-42), a method for enabling identification of a first digital data sequence (col 5, lines 30-35), comprising:

calculating a first digital fingerprint based on at least part of the first sequence (Fig 1, elt 136; col 6, lines 6-9),

comparing the first fingerprint with a plurality of second fingerprints respectively associated with a plurality of second digital data sequences (Fig 1, elts 140 & 144; col 6, lines 9-12),

if multiple second fingerprints are matched that have a mathematical distance measure less than a predefined limiting distance from the first data sequence and comparing the calculated digital watermark with watermarks respectively associated with the matched multiple second fingerprints' respectively associated second digital data sequences in order to establish an identity of the first digital data sequence; otherwise, the first fingerprint is established as unique (The Examiner reads the alternative condition as "if multiple second fingerprints are not matched that meet a predefined proximity criterion with the first finger, the first fingerprint is established as unique;" Shuster: Fig 1, elts 144, 148 & 152; col 6, lines 15-19; col 6, lines 37-38).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 and 8-10, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Levy et al. (U.S. Pat Pub 2003/0021441 A1), hereinafter referred to as Levy, in view of Lofgren et al. (U.S. Pat Pub 2002/0154144 A1), hereinafter referred to as Lofgren.

Re claims 1, 4 and 8: Levy teaches a method, a system for identifying a first digital data sequence and a method for enabling identification of a first digital data sequence (Abstract; ¶9; ¶10), comprising:

calculating a first digital fingerprint based on at least part of the first sequence (¶51),

comparing the first fingerprint with a plurality of second fingerprints respectively associated with a plurality of second digital data sequences (¶54, lines 33-36),

multiple second fingerprints are matched that have a mathematical distance measure less than a predefined limiting distance from the first fingerprint (¶54; ¶57; ¶58, lines 1-3),

calculating a digital watermark associated with the first data sequence (Abstract, lines 5-7).

However, Levy does not expressly disclose comparing the calculated digital watermark with watermarks respectively associated with the matched second digital data sequences in order to establish an identity of the first digital data sequence.

Lofgren teaches calculating a digital watermark associated with the first data sequence (§37, lines 6-8; §45, lines 1-2; §46, lines 2-3; §47); comparing the calculated digital watermark with watermarks respectively associated with the matched second digital data sequences in order to establish an identity of the first digital data sequence (§38; §46, lines 2-3; §47; §49, lines 3-8; §51-§52; §65; §73).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Levy with the teachings of Lofgren, for the purpose of indexing, searching & retrieving information expediently.

Re claims 2, 5 and 9: The combination of Levy and Lofgren teaches calculating the digital watermark associated with the first data sequence, is dependent on information contained in the first fingerprint (Levy: §54: lines 15-21 & lines 33-36; §57-§58; Lofgren: §47; §49).

Re claims 3, 6 and 10: The combination of Levy and Lofgren teaches calculating the digital watermark associated with the first data sequence is dependent on information resulting from the comparison between the first fingerprint and the plurality of second fingerprint (Levy: §51; §54: lines 15-21 & lines 33-36; §57-§58; Lofgren: §47; §49; §52).

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the text of the passage taught by the prior art or disclosed by the examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 2435

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARREN SCHWARTZ whose telephone number is (571)270-3850. The examiner can normally be reached on 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571)272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S./

Examiner, Art Unit 2435

/Kimyen Vu/

Supervisory Patent Examiner, Art Unit 2435